

**METHOD AND APPARATUS PROVIDING TIME DOMAIN  
INTERPOLATED CHANNEL ESTIMATION WITH ADVANCED NOISE  
SUPPRESSION FOR MULTICARRIER TRANSMISSIONS**

**ABSTRACT OF THE DISCLOSURE**

Disclosed is an interpolation procedure for channel estimation that is based on minimum mean-squared error (MMSE) estimates over comb-type pilot signals. The time domain (TD) interpolated channel estimation suppresses, by the use of an advanced noise suppression scheme, the noise jitter that spreads over all or substantially all of the bandwidth of interest. The original channel estimates in the frequency domain (FD) are transformed into the TD by an IFFT function, where in one embodiment a predefined threshold on actual power or accumulative power is used to minimize the noise jitter over the bandwidth. In a further embodiment the channel estimates in the FD are transformed into the TD and the noise jitter is suppressed by preserving the channel estimates at the actual tap delays and setting the others to zeroes. In either embodiment the noise suppressed channel estimates are then transformed into the FD for FD equalization.